CLAIMS

What is claimed is:

1. A method of automated sample processing comprising the steps of:
establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions;
monitoring operationally-influential exteriorly-consequential information;
automatically processing at least one sample at least in part through operation of said robotic sample process functions; and
automatically informing at least one person of at least some exteriorly-consequential information in response to said step of monitoring operationally-influential exteriorly-consequential information.

2. A method of automated sample processing as described in claim 1 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the step of establishing an automated slide processing system.

3. A method of automated sample processing as described in claim 2 wherein said step of automatically processing at least one sample comprises the steps of:
arranging a plurality of slides on a carrier retainment assembly;
applying a reagent to said plurality of slides; and
automatically staining said plurality of slides.

4. A method of automated sample processing as described in claim 3 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the steps of:
establishing a plurality of automated slide stainers; and
electronically connecting said plurality of automated slide stainers.

5. A method of automated sample processing as described in claim 1 , 3, or 4 and further comprising the step of establishing a local area network electronically connected to said automated sample processing system.

6. A method of automated sample processing as described in claim 3 or 4 and further comprising the step of holding said plurality of slides on at least one movable carrier retainment assembly.

7. A method of automated sample processing as described in claim 1 wherein said step of monitoring operationally-influential exteriorly-consequential information comprises the step of monitoring operationally-altered outside information concerning events influenced at least in part by at least some of said robotic sample process functions, and wherein said step of automatically informing at least one person of at least some exteriorly-consequential information comprises the step of automatically informing at least one person of said operationally-altered outside information.

8. A method of automated sample processing as described in claim 1 wherein said step of monitoring operationally-influential exteriorly-consequential information comprises the step of monitoring replenishable supply information.

9. A method of automated sample processing as described in claim 8 and further comprising the step of automatically notifying at least one operator of a potential need for replenishable supplies in response to said step of monitoring operationally-altered outside information concerning events.

10. A method of automated sample processing as described in claim 8 and further comprising the step of automatically notifying at least one supplier of a potential need for replenishable supplies in response to said step of monitoring operationally-altered outside information concerning events.

11. A method of automated sample processing as described in claim 1 wherein said step of monitoring operationally-influential exteriorly-consequential information comprises the step of monitoring instrument maintenance information.

12. A method of automated sample processing as described in claim 11 and further comprising the step of automatically notifying at least one operator of a potential need for maintenance in response to said step of monitoring instrument maintenance information.

13. A method of automated sample processing as described in claim 11 wherein said step of monitoring instrument maintenance information comprises the step of monitoring part cycle information.

14. A method of automated sample processing as described in claim 13 wherein said step of monitoring part cycle information comprises the step of monitoring individual part cycle information.

15. A method of automated sample processing as described in claim 1 or 13 and further comprising the step of automatically notifying at least one supplier of a potential need for maintenance in response to said step of monitoring operationally-influential exteriorly-consequential information.

16. A method of automated sample processing as described in claim 1 wherein said step of monitoring operationally-influential exteriorly-consequential information comprises the step of monitoring product expiration information.

17. A method of automated sample processing as described in claim 16 and further comprising the step of automatically advance notifying at least one person of an upcoming expiration in response to said step of monitoring product expiration information.

18. A method of automated sample processing as described in claim 16 wherein said step of automatically advance notifying at least one person of an upcoming expiration comprises the step of accomplishing multiple notifications of an upcoming expiration.

19. A method of automated sample processing as described in claim 17 wherein said step of automatically advance notifying at least one person of an upcoming expiration in response to said step of monitoring operationally-altered outside

information concerning events comprises the step of automatically advance notifying a person selected from a group consisting of:
an instrument operator, an administrator, and a supplier.

20. A method of automated sample processing as described in claim 1 and further comprising the step of monitoring historical usage information.

21. A method of automated sample processing as described in claim 20 wherein said step of monitoring historical usage information comprises the step of monitoring user statistical information.

22. A method of automated sample processing as described in claim 20 and further comprising the step of automatically advance notifying at least one person of a predictive need in response to said step of monitoring historical usage information.

23. A method of automated sample processing as described in claim 22 wherein said step of automatically advance notifying comprises the step of automatically advance notifying an instrument operator of information at least in part in response to said step of monitoring historical usage information.

24. A method of automated sample processing as described in claim 1 , 20, 22, or 23 and further comprising the step of accepting a monitored information user prompt.

25. A method of automated sample processing as described in claim 24 wherein said step of automatically informing at least one person of at least some exteriorly-consequential information acts in response to said step of accepting a monitored information user prompt.

26. A method of automated sample processing as described in claim 1 wherein said step of monitoring operationally-influential exteriorly-consequential information comprises the step of totalizing usage information for an item.

27. A method of automated sample processing as described in claim 26 wherein said step of totalizing usage information for an item comprises the step of totalizing reagent usage information.

28. A method of automated sample processing as described in claim 26 wherein said step of totalizing usage information for an item comprises the step of totalizing individual part cycle information.

29. A method of automated sample processing as described in claim 1 wherein said step of monitoring operationally-influential exteriorly-consequential information comprises the step of monitoring predictive usage information.

30. A method of automated sample processing as described in claim 29 wherein said step of monitoring predictive usage information comprises the step of utilizing order lead time information.

31. A method of automated sample processing as described in claim 29 wherein said step of monitoring predictive usage information comprises the step of utilizing reagent order lead time information

32. A method of automated sample processing as described in claim 29 wherein said step of monitoring predictive usage information comprises the step of utilizing maintenance lead time information.

33. A method of automated sample processing as described in claim 1 wherein said step of automatically informing at least one person of at least some exteriorly-consequential information comprises the step of automatically informing at least one operator of at least some exteriorly-consequential information.

34. A method of automated sample processing as described in claim 1 wherein said step of automatically informing at least one person of at least some exteriorly-consequential information comprises the step of automatically informing at least one administrator of at least some exteriorly-consequential information.

35. A method of automated sample processing as described in claim 1 wherein said step of automatically informing at least one person of at least some exteriorly-consequential information comprises the step of automatically informing at least one supplier of at least some exteriorly-consequential information.

36. A method of automated sample processing as described in claim 1 wherein said step of automatically informing at least one person of at least some exteriorly-consequential information comprises the step of automatically informing at least one manufacturer of at least some exteriorly-consequential information.

37. A method of automated sample processing as described in claim 1 wherein said step of automatically informing at least one person of at least some exteriorly-consequential information comprises the step of automatically E-mailing at least one person of at least some exteriorly-consequential information.

38. A method of automated sample processing as described in claim 1 wherein said step of automatically informing at least one person of at least some exteriorly-consequential information comprises the step of automatically printing out at least some exteriorly-consequential information.

39. A method of automated sample processing as described in claim 1 wherein said step of automatically informing at least one person of at least some exteriorly-consequential information comprises the step of automatically utilizing a telephone line.

40. A method of automated sample processing as described in claim 1 wherein said step of monitoring operationally-influential exteriorly-consequential information comprises the step of monitoring sample process efficacy information.

41. A method of automated sample processing as described in claim 40 wherein said step of monitoring sample process efficacy information comprises the step of monitoring material requirement information.

42. A method of automated sample processing as described in claim 1 wherein said step of monitoring operationally-influential exteriorly-consequential information

comprises the step of monitoring any of the permutations and combinations of information selected from a group consisting of:
replenishable supply information, instrument maintenance information, product expiration information, historical usage information, totalization usage information, predictive usage information, and process efficacy information.

43. An automated sample processing system comprising:
at least one sample arranged on a carrier element;
a process operation control system configured to at least partially process said sample;
robotic motion system responsive to said process operation control system;
an operationally-influential exteriorly-consequential information monitor; and
an automatic exteriorly-consequential information notice element responsive to said operationally-influential exteriorly-consequential information monitor.

44. An automated sample processing system as described in claim 43 wherein said at least one sample arranged on a carrier element comprises a biological sample arranged on a slide.

45. An automated sample processing system as described in claim 44 wherein said process operation control system configured to at least partially process said sample comprises:
a plurality of slides on a carrier element retainment assembly;
at least one reagent container; and
a slide stain element configured to act upon said plurality of slides.

46. An automated sample processing system as described in claim 45 and further comprising:
a plurality of automated slide stainers; and
an electronic connection to said plurality of automated slide stainers.

47. An automated sample processing system as described in claim 43, 45, or 46 and further comprising a local area network electronically connected to a stand alone automated slide processing system.

48. An automated sample processing system as described in claim 45 or 46 wherein said carrier element comprises a movable carrier element.

49. An automated sample processing system as described in claim 43 wherein said operationally-influential exteriorly-consequential information monitor comprises an operationally-altered outside information monitor, and wherein said automatic exteriorly-consequential information notice element comprises an automatic operationally-altered outside information notice element.

50. An automated sample processing system as described in claim 43 wherein said operationally-altered outside information monitor comprises a replenishable supply information monitor.

51. An automated sample processing system as described in claim 50 and further comprising an automatic operator replenishable supply notice element that acts in response to said replenishable supply information monitor.

52. An automated sample processing system as described in claim 50 and further comprising an automatic supplier replenishable supply notice element that acts in response to said replenishable supply information monitor.

53. An automated sample processing system as described in claim 43 wherein said operationally-influential exteriorly-consequential information monitor comprises an instrument maintenance monitor.

54. An automated sample processing system as described in claim 53 and further comprising an automatic operator notice element that acts in response to said instrument maintenance information monitor.

55. An automated sample processing system as described in claim 53 wherein said instrument maintenance monitor comprises a part cycle monitor.

56. An automated sample processing system as described in claim 55 wherein said part cycle monitor comprises an individual part cycle monitor.

57. An automated sample processing system as described in claim 43 or 55 and further comprising an automatic maintenance notice element that acts in response to said operationally-influential exteriorly-consequential information monitor.

58. An automated sample processing system as described in claim 43 wherein said operationally-influential exteriorly-consequential information monitor comprises a product expiration information monitor.

59. An automated sample processing system as described in claim 58 and further comprising an automatic advance expiration notice element that acts in response to said product expiration information monitor.

60. An automated sample processing system as described in claim 59 wherein said automatic advance expiration notice element comprises a multiple advance expiration notice element.

61. An automated sample processing system as described in claim 59 wherein said automatic advance expiration notice element comprises a notice element selected from a group consisting of:
an instrument operator notice element, an administrator notice element, and a supplier notice element.

62. An automated sample processing system as described in claim 43 and further comprising a historical usage information monitor.

63. An automated sample processing system as described in claim 62 wherein said historical usage information monitor comprises a user statistical information monitor.

64. An automated sample processing system as described in claim 62 and further comprising an automatic predictive need notice element that acts in response to said historical usage information monitor.

65. An automated sample processing system as described in claim 64 wherein said automatic predictive need notice element comprises an automatic operator notice element.

66. An automated sample processing system as described in claim 43, 62, 64, or 65 and further comprising a monitored information user prompt.

67. An automated sample processing system as described in claim 66 wherein said automatic exteriorly-consequential information notice element acts in response to said monitored information user prompt.

68. An automated sample processing system as described in claim 43 wherein said operationally-influential exteriorly-consequential information monitor comprises a totalizator.

69. An automated sample processing system as described in claim 68 wherein said totalizator comprises a reagent totalizator.

70. An automated sample processing system as described in claim 68 wherein said totalizator comprises a part cycle totalizator.

71. An automated sample processing system as described in claim 43 wherein said operationally-influential exteriorly-consequential information monitor comprises a predictive usage information element.

72. An automated sample processing system as described in claim 71 wherein said predictive usage information element comprises an order lead time information data element.

73. An automated sample processing system as described in claim 71 wherein said predictive usage information element comprises a reagent order lead time information data element.

74. An automated sample processing system as described in claim 71 wherein said predictive usage information element comprises a maintenance lead time information data element.

75. An automated sample processing system as described in claim 43 wherein said automatic exteriorly-consequential information notice element comprises an automatic operator exteriorly-consequential information notice element.

76. An automated sample processing system as described in claim 43 wherein said automatic exteriorly-consequential information notice element comprises an automatic administrator exteriorly-consequential information notice element.

77. An automated sample processing system as described in claim 43 wherein said automatic exteriorly-consequential information notice element comprises an automatic supplier exteriorly-consequential information notice element.

78. An automated sample processing system as described in claim 43 wherein said automatic exteriorly-consequential information notice element comprises an automatic manufacturer exteriorly-consequential information notice element.

79. An automated sample processing system as described in claim 43 wherein said automatic exteriorly-consequential information notice element comprises an automatic E-mail notice element.

80. An automated sample processing system as described in claim 43 wherein said automatic exteriorly-consequential information notice element comprises an automatic printout notice element.

81. An automated sample processing system as described in claim 43 wherein said automatic exteriorly-consequential information notice element comprises an automatic telephone line utilization element.

82. An automated sample processing system as described in claim 43 wherein said operationally-influential exteriorly-consequential information monitor comprises a sample process efficacy information monitor.

83. An automated sample processing system as described in claim 82 wherein said sample process efficacy information monitor comprises a material requirement information monitor.

84. An automated sample processing system as described in claim 43 wherein said operationally-influential exteriorly-consequential information monitor comprises any of the permutations and combinations of a monitor selected from a group consisting of:
replenishable supply information monitor, instrument maintenance information monitor, product expiration information monitor, historical usage information monitor, totalization usage information monitor, predictive usage information monitor, and process efficacy information monitor.

85. A method of automated sample processing comprising the steps of:
establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions;
scheduling a plurality of sample process operations;
systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur;
automatically processing at least one sample at least in part through operation of said robotic sample process functions sequencing through said scheduled plurality of sample process operations; and
accepting a prompt from a user to display at least a portion of said important details of a significant number of said plurality of sample process operations; and
providing information relative to said plurality of sample process operations to at least one person.

86. A method of automated sample processing as described in claim 85 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the step of establishing an automated slide processing system.

87. A method of automated sample processing as described in claim 86 wherein said step of automatically processing at least one sample comprises the steps of:
arranging a plurality of slides on a carrier retainment assembly;
applying a reagent to said plurality of slides; and
automatically staining said plurality of slides.

88. A method of automated sample processing as described in claim 87 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the steps of:
establishing a plurality of automated slide stainers; and
electronically connecting said plurality of automated slide stainers.

89. A method of automated sample processing as described in claim 85, 87, or 88 and further comprising the step of establishing a local area network electronically connected to said automated sample processing system.

90. A method of automated sample processing as described in claim 87 or 88 and further comprising the step of holding said plurality of slides on at least one movable carrier retainment assembly.

91. A method of automated sample processing as described in claim 87 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the steps of:
systematically storing time of occurrence data,
systematically storing substance identifier data,
systematically storing individual robotic movement data,
systematically storing subject sample data, and
systematically storing type of protocol data.

92. A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur

comprises the step of systematically storing details selected from a group consisting of:

time of occurrence data, number of occurrence data, part operation data, amount of usage data, amount of material used data, type of material used data, substance identifier data, individual movement data, robotic action data, individual robotic movement data, individual operation data, individual usage data, actual date data, actual time data, precise time data, relative time data, absolute time data, initiation time data, completion time data, subject sample data, sample image data, individual sample process data, individual slide log data, system image data, substance image data, and type of protocol data.

93. A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing amount of material used data.

94. A method of automated sample processing as described in claim 92 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing robotic action data.

95. A method of automated sample processing as described in claim 94 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing individual robotic movement data.

96. A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing precise time data.

97. A method of automated sample processing as described in claim 96 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing relative time data.

98. A method of automated sample processing as described in claim 96 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing absolute time data.

99. A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing image data.

100. A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing sample image data.

101. A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing substance image data.

102. A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing system image data.

103. A method of automated sample processing as described in claim 99, 100, 101, 102 wherein said step of systematically storing image data comprises the step of systematically storing multiple image data.

104. A method of automated sample processing as described in claim 103 wherein said step of systematically storing multiple image data comprises the step of systematically storing pre- and post-event image data.

105. A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating a segmented computer file.

106. A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating an inalterable computer record.

107. A method of automated sample processing as described in claim 106 wherein said step of creating an inalterable computer record comprises the step of creating integral change indicia as part of said inalterable computer record.

108. A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating a common format computer record.

109. A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating a proprietary format computer record.

110. A method of automated sample processing as described in claim 85 wherein said step of accepting a prompt from a user to display at least a portion of said important details of a significant number of said plurality of sample process operations comprises the step of providing a software selection to a user.

111. A method of automated sample processing as described in claim 85 wherein said step of accepting a prompt from a user to display at least a portion of said important details of a significant number of said plurality of sample process operations comprises the step of utilizing a remote access connection.

112. A method of automated sample processing as described in claim 85 wherein said step of providing information relative to said plurality of sample process operations to at least one person comprises the step of displaying at least a portion of said information.

113. A method of automated sample processing as described in claim 112 wherein said step of displaying at least a portion of said information comprises the step of remotely displaying at least a portion of said information.

114. A method of automated sample processing as described in claim 85 or 112 wherein said step of displaying at least a portion of said information comprises the step of real time displaying at least a portion of said information.

115. A method of automated sample processing as described in claim 112 wherein said step of displaying at least a portion of said information comprises the step of creating a simulated motion display from at least a portion of said information.

116. A method of automated sample processing as described in claim 85 wherein said step of providing information relative to said plurality of sample process operations to at least one person comprises the step of providing a sequential playback capability.

117. A method of automated sample processing as described in claim 116 wherein said step of providing a sequential playback capability comprises the step of providing an altered speed sequential playback capability.

118. A method of automated sample processing as described in claim 117 wherein said step of providing an altered speed sequential playback capability comprises the step of providing a user alterable speed sequential playback capability.

119. A method of automated sample processing as described in claim 117 wherein said step of providing an altered speed sequential playback capability comprises the step of providing a high speed sequential playback capability.

120. A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing individual slide log data.

121. A method of automated sample processing as described in claim 85 and further comprising the step of real time displaying individual slide log data.

122. An automated sample processing system comprising:
at least one sample arranged on a carrier element;
a process operation control system configured to at least partially process said sample;
robotic motion system responsive to said process operation control system;
a multiple event scheduler to which said robotic motion system is at least in part responsive;
systematic process detail capture element;
a significant process detail memory responsive to said systematic process detail capture element and that stores at least some significant process data;
an information access prompt element to which said significant process data is responsive; and
a significant process data transfer element.

123. An automated sample processing system as described in claim 122 wherein said at least one sample arranged on a carrier element comprises a biological sample arranged on a slide.

124. An automated sample processing system as described in claim 123 wherein said process operation control system configured to at least partially process said sample comprises:
a plurality of slides on a carrier element retainment assembly;
at least one reagent container; and
a slide stain element configured to act upon said plurality of slides.

125. An automated sample processing system as described in claim 124 and further comprising:
a plurality of automated slide stainers; and
an electronic connection to said plurality of automated slide stainers.

126. An automated sample processing system as described in claim 122, 124, or 125 and further comprising a local area network electronically connected to a stand alone automated slide processing system.

127. An automated sample processing system as described in claim 124 or 125 wherein said carrier element comprises a movable carrier element.

128. An automated sample processing system as described in claim 124 wherein said systematic process detail capture element comprises:
a time of occurrence data capture element,
an individual robotic movement data capture element,
a substance identifier data capture element,
a subject sample data capture element, and
a type of protocol data capture element.

129. An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises a systematic process detail capture element selected from a group consisting of:
a time of occurrence data capture element, a number of occurrence data capture element, a part operation data capture element, an amount of usage data capture element, an amount of material used data capture element, a type of material used data capture element, a substance identifier data capture element, an individual movement data capture element, a robotic action data capture element, an individual robotic movement data capture element, an individual operation data capture element, an individual usage data capture element, an actual date data capture element, an actual time data capture element, a precise time data capture element, a relative time data capture element, an absolute time data capture element, an initiation time data capture element, a completion time data capture element, a subject sample data capture element, a sample image data capture element, an individual sample process data capture element, individual slide log data capture element, a system image data capture element, a substance image data capture element, and a type of protocol data capture element.

130. An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises an amount of material used data capture element.

131. An automated sample processing system as described in claim 129 wherein said systematic process detail capture element comprises a robotic action data capture element.

132. An automated sample processing system as described in claim 131 wherein said systematic process detail capture element comprises an individual robotic movement data capture element.

133. An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises a precise time data capture element.

134. An automated sample processing system as described in claim 133 wherein said systematic process detail capture element comprises a relative time data capture element.

135. An automated sample processing system as described in claim 133 wherein said systematic process detail capture element comprises an absolute time data capture element.

136. An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises an image data capture element.

137. An automated sample processing system as described in claim 136 wherein said image data capture element comprises a sample image data capture element.

138. An automated sample processing system as described in claim 136 wherein said image data capture element comprises a substance image data capture element.

139. An automated sample processing system as described in claim 136 wherein said image data capture element comprises a system image data capture element.

140. An automated sample processing system as described in claim 136, 137, 138, or 139 wherein said image data capture element comprises a multiple image data capture element.

141. An automated sample processing system as described in claim 140 wherein said multiple image data capture element comprises a pre- and post-event image data capture element.

142. An automated sample processing system as described in claim 122 wherein said significant process detail memory comprises a segmented computer file memory element.

143. An automated sample processing system as described in claim 122 wherein said significant process detail memory comprises an inalterable computer record memory element.

144. An automated sample processing system as described in claim 143 wherein said significant process detail memory comprises an integral change indicia memory element.

145. An automated sample processing system as described in claim 142 wherein said significant process detail memory comprises a common format computer record memory element.

146. An automated sample processing system as described in claim 142 wherein said significant process detail memory comprises a proprietary format computer record memory element.

147. An automated sample processing system as described in claim 122 wherein said information access prompt element comprises a software selection element.

148. An automated sample processing system as described in claim 122 wherein said information access prompt element comprises a remote access element.

149. An automated sample processing system as described in claim 122 and further comprising a significant process detail information display that is responsive to said significant process detail memory.

150. An automated sample processing system as described in claim 149 wherein said significant process detail information display comprises a remote process detail information display.

151. An automated sample processing system as described in claim 122 or 149 wherein said significant process detail information display comprises a real time process detail information display.

152. An automated sample processing system as described in claim 149 wherein said significant process detail information display comprises a simulated motion process detail information display.

153. An automated sample processing system as described in claim 122 and further comprising a sequential playback element.

154. An automated sample processing system as described in claim 153 wherein said sequential playback element comprises an altered speed sequential playback element.

155. An automated sample processing system as described in claim 154 wherein said altered speed sequential playback element comprises a user alterable speed sequential playback element.

156. An automated sample processing system as described in claim 154 wherein said altered speed sequential playback element comprises a high speed sequential playback element.

157. An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises an individual slide log data capture element.

158. An automated sample processing system as described in claim 122 and further comprising a real time individual slide log data display.